

What is claimed is:

1. A wireless extension for transmitting analog and digital television signals from one location to another comprising:

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a sending unit comprising:

a remote control interface for receiving a channel selection command;

at least one tuner responsive to the remote control interface with an RF input and a tuner output;

a digital demodulator for receiving the tuner output and producing a digital stream containing

10 MPEG encoded program information;

an MPEG demultiplexer for receiving the MPEG information from the digital demodulator and selecting at least one MPEG program to produce a first MPEG stream;

an MPEG encoder receiving the tuner output and producing a second MPEG stream;

a selector responsive to the remote control interface for selecting between the first MPEG stream

15 and the second MPEG stream; and

a modulator and transmitter for producing an RF signal to transmit the selected MPEG stream;

a receiving unit comprising:

a receiver for receiving the RF signal; and

20 an MPEG demultiplexer/decoder for demultiplexing the desired program and converting the MPEG program to a signal suitable for driving a television receiver.

2. The wireless extension of claim 1 further comprising:

25 in the transmitting unit a means for encryption of the selected MPEG program; and

in the receiving unit a means for decryption of the received signal.

3. The wireless extension of claim 2 further comprising:

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a public key exchange wherein a public key is transmitted from the receiving unit to the sending unit.

4. The wireless extension of claim 1 further comprising:

in the receiving unit a conditional access unit that receives information to enable decoding of the MPEG  
5 program.

5. The wireless extension of claim 1 further comprising:

a digital lock detector in the digital demodulator for detecting a digital signal lock condition;  
10 an analog lock detector in the MPEG decoder for detecting an analog signal lock condition;  
control logic circuitry responsive to the digital lock detector and the analog lock detector with an output  
to the selector to select an active MPEG stream from the source indicating a lock condition.

6. The wireless extension of claim 1 further comprising:

15 in the transmitter a programmable transmit power level circuit responsive to power level commands  
from the remote control.

7. A wireless extension system for transmitting analog and digital television signals from one location  
20 to another comprising:

a sending unit comprising:

a remote control interface for receiving a channel selection command;  
at least one tuner responsive to the remote control interface with an RF input and a tuner output;

25 a digital demodulator for receiving digital signals from a tuner output and producing a first  
digital video program;

a digital video encoder receiving analog signal from a tuner output and producing a second  
digital video program;

30 a combiner responsive to the remote control interface for combining the first digital video  
program and the second digital video program to form a combined digital video stream; and

a modulator and transmitter for producing an RF signal to transmit the combined digital video stream;

a receiving unit comprising:

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a receiver for receiving the RF signal; and

a digital video decoder for converting the digital video program to a signal suitable for driving a television receiver.

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8. The wireless extension system of claim 7 wherein the digital video programs are MPEG programs.

9. The wireless extension system of claim 8 wherein the combiner multiplexes MPEG video programs to form an MPEG video stream.

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10. The wireless extension of claim 7 further comprising:

in the transmitting unit a means for encryption of the transmitted digital video program; and  
in the receiving unit a means for decryption of the received signal.

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11. The wireless extension of claim 10 further comprising:

a public key exchange wherein a public key is transmitted from the receiving unit to the sending unit.

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12. The wireless extension of claim 10 further comprising:

in the receiving unit a conditional access unit that receives information to enable decoding of the digital video program.

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13. The wireless extension of claim 10 further comprising:

a digital lock detector in the digital demodulator for detecting a digital signal lock condition;

an analog lock detector in the digital video decoder for detecting an analog signal lock condition;  
and

control logic circuitry responsive to the digital lock detector and the analog lock detector with an  
output to the combiner to select an active digital video program from the source indicating a lock  
5 condition.

14. The wireless extension of claim 10 further comprising:

in the transmitter a programmable transmit power level circuit responsive to power level  
10 commands from the remote control.